

TWO NEW THRIPS-GALLS AND THEIR INHABITANTS, FROM  
NEW SOUTH WALES.

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(Three Text-figures.)

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On one of the excursions which followed the second Pan-Pacific Science Congress (Australia, 1923) one of us (the former) had an opportunity of collecting galls in an almost tropical vegetation. In the territory of the Northern Rivers, especially round Lismore, almost the whole of the old vegetation has been cut or burned down in order to make pasture land. Only a very small spot was still left untouched at the time of this visit, and they were just beginning to cut also the trees of this last small reservation.

This forest gave the same impression as a forest on dry ridges in Java: some old tall trees and a dense underbrush. A thrips-gall was collected there, on *Randia chartacea* F.v.M., which is not mentioned in the recently published valuable work on galls from the Old World by Houard\*, and which, therefore, appears to be new. Another thrips-gall was found on *Smilax australis* R.Br. in the remnant of a forest near Murwillumbah. Now, a thrips-gall on *Smilax zeylanica* L. is known to us from Java, Celebes and the islands of the Saleiergroup †, and on *Smilax leucophylla* Bl. from Java and Sumatra. The new gall on *Smilax australis* R.Br. is identical with the one from the Malayan Regions and the gall-former is the same.

It is a remarkable fact that the same gall, or almost the same gall, is found in places so far from each other, and it proves that a more thorough study of the galls occurring in forests in the tropical parts of Australia should be of high value from a zoogeographical point of view. In this connection it may be of

\* C. Houard. Les Zoocécidies des Plantes d'Afrique, d'Asie et d'Océanie. Tome i. et ii. Paris, chez Hermann, 1922-1923.

† J. und W. Docters van Leeuwen-Reijnvaan. Einige Gallen aus Java. Vierter Beitrag. Marcellia. Tome ix., 1910, p. 191, No. 196, fig. 80.

H. Karny und J. und W. Docters van Leeuwen-Reijnvaan. Ueber die Javanischen Thysanoptero-Cecidien und deren Bewohner. Bulletin du Jardin botanique de Buitenzorg. Série ii., No. x., 1913, p. 19, fig. 10, 11.

J. und W. Docters van Leeuwen-Reijnvaan. Beschreibungen von Gallen aus Celebes und aus den Inseln südlich von Celebes. Bulletin du Jardin botanique de Buitenzorg. Série ii., No. xxi., 1916, p. 43, N: 62.

interest that one of us (W.D.v.L.) collected a psyllid-gall on *Mallotus philippinensis* Muell. Arg. on Susan Island, Clarence River, which is the same as the one occurring in Sumatra, Java and Celebes †, and which has not yet been recorded from Australia.

Here follow the descriptions of the galls and of the gall-formers. Mr. Cheel, of the Herbarium of the Botanic Gardens in Sydney, has been so kind as to determine the material, for which kindness we are very much indebted to him.

1. *Randia chartacea* F.v.M.

Inhabitant: *Euoplothrips bagnalli* Hood.

The borders of the leaf are folded upwards so as to form a narrow roll



Fig. 1.—Thrips gall on *Randia chartacea* F.v.M. (Nat. size).

(figure 1). Moreover, strong and young infected leaves are totally changed into the gall, and often spirally contorted round their longitudinal axis. The surface of the gall is more or less rough and, when old, of a yellow-green colour. In this gall were found only two macromerous (♀) specimens of *Euoplothrips bagnalli* Hood. It is, therefore, impossible to state whether this species is the true gall-former or merely an inquiline, as seems to be the case in the following gall.

† J. und W. Docters van Leeuwen-Reijnvaan. Einige gallen aus Java. Sechster Beitrag. Bulletin du Jardin botanique de Buitenzorg, Série ii., No. iii., 1912, p. 33, N: 307.

Type gall: 20922. Lismore. Part of a virgin forest. 11 Sept., 1923.  
Field N: 7344.

2. *Smilax australis* R.Br.

Inhabitants: *Cryptothrips* (?) *intorquens* Karny; *Euoplothrips bagnalli* Hood.

The thrips attack those parts of the leafblade that adjoin the midrib of the leaf and the two strong longitudinal veins that traverse the leaf from the base to the apex. The infected parts curl upwards so as to form three narrow cases in which the creatures live. In case of strong infection, the whole leaf is formed into a roll (figure 2). The infected parts of the lamina are, moreover, rough,

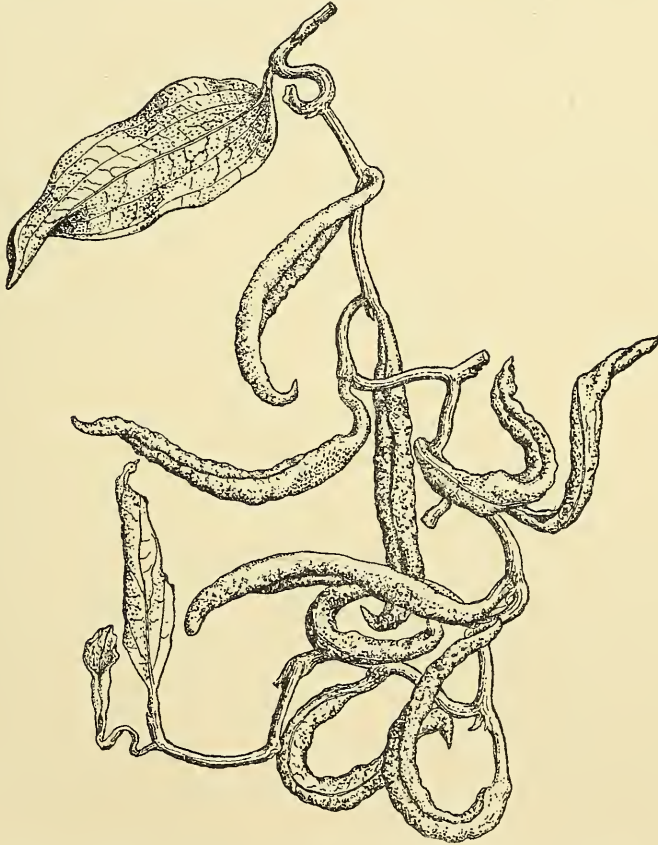


Fig. 2.—Thrips gall on *Smilax australis* R.Br. (Nat. size).

and dotted with irregular pustules. Besides, the leaf often twists itself once or twice round its longitudinal axis.

When, as sometimes happens, only one of the side-veins is affected, the other half of the leaf remains flat. The anatomy of the Javanese galls was investigated and described by us. It is a striking fact that a great number of tracheids

develop from the mesophyll-cells. These often form thick clubs or bunches in the vicinity of the larval-cavity.

In these galls were found two species of Tubuliferous Thysanoptera, both about equal in number of individuals, viz., *Cryptothrips intorquens* Karny and *Euoplothrips bagnalli* Hood. As to the former species, the Australian specimens which are in our possession agree very well with the Javanese types. Only the tooth of the fore-tarsal of the ♂ (always absent in the ♀) is less developed here, in general, than in the specimens from Java; in some of the Australian material even entirely wanting. According to this character, the species could perhaps be rather placed in the genus *Eothrips* Hood (1915), especially as the length of head is also somewhat shorter than in the true *Cryptothrips* and the fore-femora of the ♂ are scarcely larger than in the ♀. It is a matter of fact that the generic position of many Tubulifera is somewhat doubtful, and a matter of subjective decision, in consequence of the very unsatisfactory generic characters used by Uzel, such as relative length of head, armature of the fore-tarsi, etc. It is much to be hoped that more useful differences may be detected in future. Perhaps they may be found in some larval characters, the study of which has recently been inaugurated by Priesner and promises important results systematically.

*Euoplothrips bagnalli* was described by Hood (Mem. Q'land Mus., vi., 1918, 121-150) from one female "Taken by sweeping in a jungle at Nelson, N.Q.,



Fig. 3.—Fore-legs of a macromerous (left) and a micromerous (right) ♂ of *Euoplothrips bagnalli* Hood.

May 30th, 1912, by Mr. A. A. Girault." As this author stated, this species is, in fact, very closely related to the genus *Androthrips*. Though nothing was known as to the life-history of the type specimen, Mr. Hood supposed, from its systematic position, that it was "without doubt a gall-making genus." It is, however, not yet certain whether it is a true gall-former. At all events Mr. Hood was really right in expecting it to be a gall-inhabitant.

From the material in our possession we can complete Hood's description by the following additions: the 6th antennal segment is in some specimens paler at base as described by Hood, being in others entirely dark. The number of accessory fringe hairs on fore-wings is, in our material 12-18, being in Hood's type specimen "about ten." The ♂ (hitherto unknown) differs from the ♀ by no means except the genitalia. As to the shape of the fore-legs, there is a considerable variation (fig. 3) in the ♂, some being macromerous, others micromerous, as in *Thaumatothrips froggatti* Karny, described some time ago (These Proc., xlii., 1922, 266-274). The micromerous ♂ has also the armature of the fore-legs less developed than the macromerous specimens, as may be seen from the figures. All the females in our possession are macromerous.

Type gall: 20921. Murwillumbah. Remnant of a forest. Shrubbery. 12 Sept., 1923. Field N: 7369.